Outcome of language contact : Transfer of Egyptian phonological features onto Greek in Graeco-Roman Egypt

Dahlgren, Sonja Karin

2018-05

Dahlgren , S K 2018 , ' Outcome of language contact : Transfer of Egyptian phonological features onto Greek in Graeco-Roman Egypt ' , Journal of Greek Linguistics , vol. 18 , no. 1 , pp. 155-165 . https://doi.org/10.1163/15699846-01801004

http://hdl.handle.net/10138/237271
https://doi.org/10.1163/15699846-01801004

BRILL

JOURNAL OF GREEK LINGUISTICS 18 (2018) 155–165

JGL

brill.com/jgl

Dissertation Summary

∴

Outcome of language contact

Transfer of Egyptian phonological features onto Greek in Graeco-Roman Egypt

Sonja Dahlgren
University of Helsinki, Finland
sonja.dahlgren@helsinki.fi

Abstract

This summary presents the main findings of my Ph.D. dissertation (University of Helsinki) on the phonological transfer of Egyptian on second language Greek usage in Egypt.

Keywords

language contact – variation – coarticulation – vowel reduction – loanword phonology – Coptic phonology – Greek phonology – nonstandard orthography

1 Introduction

Linguistic studies regarding variation in Greek and Latin have grown in interest in recent years but hitherto they have mainly concentrated on morphosyntactic variation (see e.g., Vierros 2012, Stolk 2015, Bentein 2016). Phonological transfer has received less attention despite the seminal work of Gignac (1976) and shortly thereafter the contribution of Teodorsson (1977), who list the most frequent nonstandard orthographic variants that appear in Greek papyri, giv-

ing valuable information on the phonological level and development of Greek in Egypt. However, in these works, not much phonetic analysis is included to explain the reasons behind the nonstandard orthographic variants, other than their focus on Greek-internal development. These studies largely disregard available material within the field of Coptology regarding similar nonstandard orthography in Greek loanwords appearing in Coptic.[1] In this work, I have taken these misspellings of Greek loanwords in Coptic as a starting point for my research on the possibility of the transfer of Coptic phonological features onto the Greek spoken as a second language (L2) in Graeco-Roman Egypt. Much of L2 Greek was used by Egyptian scribes; therefore, the situation gives grounds for suspecting language contact to have induced some of the nonstandard variation.

1.1 *Phonology in language contact*

As Weinreich has already suggested, there are a few basic types of phonological transfer phenomena that are frequently encountered in language contact situations. Among these are replacement of foreign phonemes by native language phonemes, under-differentiation of foreign phonemes and over-differentiation of the same, and generally distinguishing L2 phonemes by features that are relevant in L1 but redundant in L2 (Weinreich 1963: 18).

Examples of these phenomena are not difficult to find in the languages we know; for instance, a good example of an L1 transfer feature that is redundant in L2 is German speakers' re-interpretation of the English phonemic contrast in, for example, the words *beet* [biːt] and *bit* [bɪt]. In English, the most important phonemic feature in these words is the tense/lax contrast, i.e. the quality difference between [i] and [ɪ], and the quantity difference is of less relevance. However, in German, which has the same phonemes, the relevant difference between the phonemes in the same type of minimal pair *bieten* [biːtən] and *bitten* [bɪttən] is, in fact, vowel quantity, not the tense/lax contrast, which occurs as allophonic variation only, related to the length difference (Major 2001: 32).

This type of small-scale reinterpretation of phonemic contrast does not mean that the L2 production is not understandable, but it probably does sound non-native. In the above case, however, both of the languages possess both of the phonemes in question, whereas in the L2 production of French /y/ by English speakers, the foreign phoneme is simply replaced with the nearest equivalent, the close rounded back vowel [u] instead of the close rounded near-

1 Horrocks 2010 [1997], however, gives a credible account of which nonstandard features of Greek in Egypt can be seen to stem from the impact of Egyptian.

front vowel [y]. The same type of under-differentiation occurred also in the L2 Greek production of Egyptian writers, the Greek /y/ being replaced with /u/ (written ου), for the same simple reason as in the English-French example above: Egyptian did not have the phoneme /y/. Likewise, the voiced and voiceless stop graphemes κ/γ, π/β, τ/δ seem to be in free variation in Greek written in Egypt (cf. Gignac 1976: 64), again because this distinction did not exist in Egyptian, which only had the voiceless series of these two (e.g. Loprieno 1995: 40–43).

1.2 *Transfer effects from Egyptian onto Greek in Egypt*

One of the most interesting phenomena to be found in L2 Greek in Egypt is over-differentiation. This phenomenon means that the L2 user of the language is emphasising linguistic units that are relevant to L1 but irrelevant to L2. One of the examples of this in the world's languages occurs in the Russian L2 speakers of Finnish who produce Finnish /y/ as a sequence [ju], a (palatalised) close back rounded phoneme available in their native language; Finnish [y] is produced by a simultaneous production of two phonetic features, palatal and labial, whereas in Russian this same combination of phonetic features is produced sequentially as [ju] (Wiik 1965: 30). Therefore, the model for the production of the foreign phoneme is taken from the closest available one in the native language phoneme inventory, and in this case as in the above case of the German speakers' L2 English, the distinction is so minor that it hardly hinders understanding.

This was likely also the case with the L2 speakers of Greek in Egypt, to give an idea of what the language contact in Graeco-Roman Egypt was like through some modern contact situations. An example of over-differentiation in Greek in Egypt is consonant-to-vowel coarticulation, which means that consonants take phonetic properties from the adjacent vowels, i.e. are fronted near front consonants, retracted in quality near back consonants, etc. According to Traunmüller (1999), this phonetic phenomenon could aid listener perception in a consonant-rich language, giving information on the consonant qualities through the modified quality of the nearby vowels. For Egyptian, this feature would have enhanced the understanding of the Afroasiatic word formation, which was based on root and pattern morphology;[2] effectively, this means that

2 Root and pattern morphology is a method of creating word stems, or their most elementary forms. It is found in the Afroasiatic language phylum, particularly in the Semitic branch. The root is a set of consonants arranged in a particular order, identifying the general semantic meaning of the word. Parts of speech and tense and other additional information are delivered through vowels and syllabic features; these constitute the stem's pattern. (Testen 2008).

the basic meaning of a word would rest on a so-called consonantal root, which made the clear perception of consonant values essential.

The main point of reference for my study is the corpus of Narmouthis Greek ostraca, famous for its many nonstandard orthographic variants (*Ostraca Greci da Narmuthis* = OGN I). It is probable that the texts were written by scribal apprentices with an incomplete Greek education (Bagnall 2007: 13, Fewster 2002: 235) so that imperfect learning doubtless was one of the causes for the spelling variation. However, the outcome is not one of random mistakes, but is based on the phonological level of contemporary Egyptian; in the 2nd–3rd century, from which era the Narmouthis Greek ostraca come, Coptic-Egyptian was already under development (Richter 2009: 412–414), and we have evidence from (later) Coptic phonology (see e.g. Peust 1999: 80–83; 201; 211–213; 250–253) of the phonological features that are at the root of the variation in L2 Greek. These include (1) under-differentiation, i.e. merging of voiced and voiceless stops, (2) under-differentiation of /y, u/, and (3) replacement of unstressed /o/ with /u/. Examples of these phenomena can be seen below.

(1) ατελφω < ἀδελφῷ (OGN I: 103)
(2) πουρου < πυροῦ (OGN I: 42 & 46)
(3) στρυφης < στροφής (OGN I: 92)[3]

In my dissertation, I have concentrated on analysing the vowel variation. Unlike the variation regarding the consonants, which so clearly stems from the contact with Egyptian as there was no distinction between voiced and voiceless stops in (Coptic-)Egyptian, the vowel variation has not been studied in depth in a language contact context.

Gignac listed the most frequent variants but often did not provide analysis as to the reasons behind them, apart from a select few more certain cases such as suggesting that the fact that Coptic did not have the phoneme /y/ could be the reason behind Greek *ypsilon* being replaced with the diphthong /ou/ [u] in Greek texts written by Egyptians (Gignac 1976: 50; 214–216). The bivalency of Coptic *eta* is probably also one of the reasons behind so much variation on the front vowel axis, an important feature I have dealt with using extra care in my analysis chapter. Variation between the many graphemic variants that eventually were all raised to [i] in Modern Greek have too often been seen as purely Greek-internal development in the Greek texts coming from Egypt, the possible effect of the language contact being ignored in most cases. In my dissertation, I

3 Through under-differentiation of /y, u/.

have built upon earlier studies of the contact effect in the field of Coptology: the analysis of Gignac (1991) among others, and a much earlier one in Girgis (1966).

To gain an understanding of the phonetic reality behind the orthographic variation, I studied coarticulatory phonetics and the effect of first language (L1) phonology on the second language writing system (L2WS) (note the impressive introduction on this in Cook & Bassetti 2005). In my analysis, I noticed patterns of back consonants retracting the vowel quality, and front consonants raising or fronting it; this is a prominent feature in many Afroasiatic languages such as Modern (Standard) Arabic (Bellem 2007: 174–175), emphasising the quality of consonant value at the expense of that of the vowel. Coarticulation, therefore, is at the heart of the phonological analysis of nonstandard Greek in Egypt. An example of this can be seen in (4), where the bilabial /m/ has retracted the quality of *eta* to *epsilon* in the first syllable.

(4) μετροπολι < μητροπόλει

The main aim of the study, therefore, using the available materials and linguistic studies, was to prove the connection between the nonstandard Greek production and the existing language contact situation. The results of the phonological analysis give information of the contact features of L2 Greek usage in Egypt, and furthermore define the development of front vowel raising in terms of a general timescale. In addition, they add to the existing knowledge of Coptic phonology, especially regarding its stress system.

As a secondary goal, I wanted to reach some conclusions as to whether it would be justified to speak of an Egyptian Greek variety as a whole, or whether the misspellings simply represent some level of imperfect education of some writers. A preliminary research on this was reported on in Dahlgren (2016b), and enhanced somewhat in Part III of my dissertation, concluding the phonological analysis of Greek in Egypt.

2 The study

2.1 *Theoretical framework and methodology*

The theoretical framework I apply consists of the research fields of L2WS, coarticulatory phonetics and vowel reduction studies, as well as phonological typology. By its very nature, the entire study is within the sphere of contact linguistics. Because I analyse near-phonetic misspellings, concerning the pronunciation of Greek and Egyptian as it was at the moment the texts were written, I am interested in synchronic language variation despite the material being

so distinctly historical. Therefore, instead of using parallel language contact situations from the field of historical linguistics, I have mostly tried to find modern phonetic studies relating to the phonetic realisation of L2 speakers' phonemes, as affected by transfer effects from the L1. For instance, I compare the L2 pronunciation of Greek /y/ by Egyptians to the pronunciation of French /y/ by L2 speakers from six different native languages, producing similar under-differentiation (Section 4.3.2.1, *Phonological detail*).

2.2 *Data*

I use editions of Greek and Coptic papyri and unless otherwise stated, both the interpretation and translations of the editors are followed. Most Greek texts used are available in digital form in the Papyrological Navigator (PN), within the depository of documentary texts in *Duke Databank of Digital Papyri* (DDbDP), while most of the Greek loanwords in Coptic analysed in the dissertation have been taken from the project database of *Database and Dictionary of Greek Loanwords in Coptic* (DDGLC, Freie Universität Berlin). The DDGLC database is not yet online; naturally, however, the editions DDGLC used for the Greek loanwords mentioned in the dissertation are listed in References.

All data was gathered into two spreadsheets: 1) nonstandard orthographic variants from OGN I, and 2) similar nonstandard variants of Greek loanwords in Coptic, compiled from several editions of Coptic texts from several centuries. The results show a clear resemblance between the L2 Greek nonstandard renderings of Narmouthis scribes and the nonstandard orthographic variants of Greek loanwords in Coptic. Both display near-phonetic spellings that are based on Coptic phonological structures including under-differentiation of Greek /y/ as /u/, word-final vowels being reduced to schwa, extensive consonant-to-vowel coarticulation especially concerning the front vowel series, and transfer of stress patterns evident especially in the replacement of unstressed Greek /o/ with ου.

2.3 *Structure*

The dissertation contains three parts: I) Introduction to subject and theoretical framework, II) Phonological analysis of the Narmouthis ostraca, and III) Phonological analysis of the comparative material.

Chapter one of Part I, Introduction, gives information on the Narmouthis collection, comparative material used for its analysis, and earlier studies both of nonstandard vowel usage in Egyptian Greek texts and of the language of the ostraca. It also takes a look at how contact linguistic studies can be applied to the study of classical languages. The final sections give a brief outline of the research methods used.

Chapter two gives information on the language situation in Narmouthis at the time of the Narmouthis ostraca, 1st–3rd centuries CE. This chapter deals with such issues as the relevant stage of the Greek-internal vowel development, information on the local dialects of the Greek settlers in and around Narmouthis, and the stage of Egyptian. Finally, there is a description of the Coptic phonological structure and features, including the phoneme inventory of Coptic. Knowledge of these topics is needed for the phonological analysis in Chapters four and five.

Chapter three concentrates on clarifying the methodological choices used for the phonological analysis and thus includes explanation and examples of the phonetic theories of coarticulation and vowel reduction, the effects of orthographic depth and how this relates to L2WS, loanword phonology, and second language acquisition (SLA) in general. Finally, there is a note on language attitudes.

Part II includes the phonological analysis of the nonstandard vowel variants in the Narmouthis ostraca. After a general introduction to the phonological features analysed, the first section is devoted to names, and how these can, and should, be used to gain knowledge of the phonological level: as they are less standardised than common nouns, they might show the level of phonology more accurately, as well as the rate or stage of change. The analysis proper is divided into three sections according to the phonological phenomena they represent:

4.3.1) Reduction of unstressed vowels (variation concerning /a, e, o/), giving information on the loss of vowel quality in word-final position,
4.3.2) Under-differentiation of foreign phonemes and allophonic variation (variation concerning /o, u, y/), giving information on the replacement of Greek /y/ with ου and unstressed /o/ with ου, both according to Coptic phonological properties, and
4.3.3) Greek phonological development in process (variation concerning /i, e/), giving information on the most frequent of the vowel misspellings, the variation in the front vowel series.

In addition to analysing the phonological variation and the possible Egyptian influence behind it, I also explore the possible effects of early language contact on Roman period Greek usage in Egypt in Section 4.3.2.1. Section 4.3.2.2 also includes my estimation of the phonemic quality of *ypsilon* at the time period of the Narmouthis ostraca. Furthermore, the exact quality of Egyptian liquids and how they were carried into Coptic are somewhat unclear, as is the question of why liquids (mostly /r/) seem to both front as well as retract

vowel quality in different contexts; obviously, this also affects the spelling of Greek. I offer some answers to these questions in the *Phonetic detail* of Section 4.3.2.4.

The final section (4.3.4) concerns the bivalency of Coptic *eta*, a parallel phenomenon to be taken into account when analysing /i, e/ variation in Greek in Egypt; in many cases, it has more to do with consonant-to-vowel coarticulation than the general language-internal raising of vowel values that can in its final stage be seen in Modern Greek. Furthermore, it seems that at least by the early Roman period, *eta* had not raised to /i/ in Greek in Egypt.

Part III includes the phonological analysis of the misspellings found in Greek loanwords in Coptic, containing many of the same features as found in the nonstandard Greek of the Narmouthis ostraca. Again, the chapter is divided into separate parts according to the relevant phonological phenomena, and these are compared to the analysis of L2 Greek in Chapter four:

5.1.2) Reduction of unstressed vowels in Coptic (concerning variation within /a, e, o/),
5.1.3) Under-differentiation of /y, u/ and phonemic quality of *ypsilon*,
5.1.4) Stress-related allophonic variation /o, u (y)/, and
5.1.5) Fluctuation of /i, e/ and the quality of *eta* in Coptic.

While the contents of the sections mentioned above are self-explanatory, there are a few things that merit a more specific remark regarding the analysis of (Coptic-)Egyptian phonological influence on L2 Greek misspellings in Egypt. First, the stress system of Coptic-Egyptian has not been extensively studied, and I give some information on it, and how it relates to the phonological typological stress system framework in Section 5.1.6. Second, language attitudes, mostly in relation to the nonstandard orthographic variation, are again explored as a possible co-influencer behind the misspellings in Section 5.1.7; this takes into account the individual level of the language user in the form of analysing the spelling variation of one single writer.

Furthermore, to avoid circular argumentation regarding Egyptian influence behind the L2 Greek misspellings, I have analysed a group of Arabic loanwords in Coptic in Section 5.2. These display the same type of variation seen in second language Greek writing and in Greek loanwords in Coptic, evidently based on the phonetics of the language(s) involved: under-differentiation of foreign phonemes, phoneme distribution according to the L1 prosodic rules, and replacement of L2 phonemes with native language ones. The uniting factor between these two language contact situations is the integration of the foreign phonemes and stress-related issues into the native language, Coptic-Egyptian,

using L1 phonological rules, with a strikingly similar outcome despite Greek and Arabic being quite different types of languages.

Finally, Section 5.3 expands the analysis of L2 Greek usage to the whole of Egypt, taking examples of similar type of variation as described in Chapter four from various corpora (mostly) found in the Papyrological Navigator platform, all repeating the form of vowel variation seen in previous chapters. The issue of Egyptian Greek forming a separate variety from that of mainland Greek is discussed here, together with showing evidence of the phonetic variants discussed before in relation to the Narmouthis ostraca and Greek loanwords in Coptic also surfacing in other Greek corpora in Egypt. Section 5.3.2.1 returns to the question of under-differentiation of /y, u/, discussed for the first time in Section 4.3.2.1, being related to the development of societal bilingualism, and offers a suggestion toward a degree of loanword phonological integration in the subsection *Phonological detail*.

3 Conclusions

I have in this work studied the contact between Greek and Egyptian in Roman period Egypt, and come to the conclusion that many of the nonstandard vowel variants have arisen through the impact of Egyptian phonology. Some of my major findings are explained in the analysis chapters, including the consistent co-existence of under-differentiation of Greek /y/ as /u/ in in L2 Greek documents as well as in Greek loanwords in Coptic; similarly, stress-related replacement of unstressed Greek /o/ with /u/ is found in texts coming from both languages. Consonant-to-vowel coarticulation is a prominent feature especially in regard to the front vowel series, again stemming from the phonological structure of Egyptian; language-internally, this feature, as noted above in § 1.2, helped understanding of word meaning in Egyptian.

In addition to analysing the phonological variation, I have tried to seek answers to the variation from contact linguistic literature, including theories of early societal bilingualism. In my opinion, this is a major factor especially behind the nonstandard variation in the early Roman period documents, particularly coming from the bilingual region of Fayyum. This matter, however, needs more investigation before conclusive remarks concerning bilingualism in Egypt can be given.

References

Greek manuscript

OGN I = Pintaudi, Rosario & Pieter J. Sijpesteijn. 1993. *Ostraca greci da Narmuthis* (*OGN I*). Quaderni di Medinet Madi 2. Pisa: Giardini Editori e Stampatori in Pisa. = O.Narm.1 in *Checklist*.

Messeri, Gabriella & Rosario Pintaudi. 2001. Corrigenda ad OGN I. *Aegyptus* 81. 253–282.

Bibliography

Bagnall, Roger S. 2007. Reflections on the Greek of the Narmouthis Ostraca. In Mario Capasso & Paola Davoli (eds.), *New archaeological and papyrological researches on the Fayyum, Proceedings of the International Meeting of Egyptology and Papyrology, Lecce, June 8th–10th 2005*, 14–21. *Papyrologia Lupiensia* 14.

Bellem, Alex. 2007. *Towards a comparative typology of emphatics*. University of London, doctoral dissertation.[4]

Bentein, Klaas. 2016. *Verbal periphrasis in Ancient Greek. Have- and be- constructions*. Oxford: Oxford University Press.

Cook, Vivian & Benedetta Bassetti (eds.). 2005. *Second language writing systems*. Clevedon: Multilingual Matters.

Dahlgren, Sonja. 2016 (b). Towards a definition of an Egyptian Greek variety. *Papers in Historical Phonology* 1. 90–108.

Fewster, Penelope. 2002. Bilingualism in Roman Egypt. In J.N. Adams, Mark Janse, Simon Swain (eds.), *Bilingualism in ancient society: Language contact and the written text*. Oxford: Oxford University Press.

Gignac, Francis T. 1976. *A grammar of the Greek papyri of the Roman and Byzantine periods*. Vol. I Phonology. Milano: La Goliardica.

Gignac, Francis T. 1991. Phonology of the Greek of Egypt, influence of Coptic on the. In Aziz S. Atiya (ed.), *The Coptic encyclopedia*. Volume 8 of 8, 71–96. New York: Macmillan Publishers.

Girgis, W.A. 1966. Greek loan words in Coptic (Part II). In *Bulletin de la Société d'Archéologie Copte* 18. 71–96.

Horrocks, Geoffrey C. 2010 (2). *Greek: A history of the language and its speakers*. Oxford: Wiley-Blackwell.

Loprieno, Antonio. 1995. *Ancient Egyptian. A linguistic introduction*. Cambridge: Cambridge University Press.

4 Single-spaced, re-paginated version (PDF) made by the author.

Major, Roy C. 2001. *Foreign accent: The ontogeny and phylogeny of second language phonology*. Second Language Acquisition Research Series. Mahwah: Lawrence Erlbaum Associates.

Peust, Carsten. 1999. *Egyptian phonology. An introduction to the phonology of a dead language*. Göttingen: Peust und Gutschmidt.

Richter, Tonio Sebastian. 2009. Greek, Coptic and the 'language of the Hijra': the rise and decline of the Coptic language in late antique and medieval Egypt. In Hannah M. Cotton, Robert G. Hoyland, Jonathan J. Price, J. & David J. Wasserstein (eds.), *From Hellenism to Islam: Cultural and linguistic change in the Roman Near East*, 401–446. Cambridge: Cambridge University Press.

Stolk, Joanne. 2015. *Case variation in Greek papyri. Retracing dative case syncretism in the language of the Greek documentary papyri and ostraca from Egypt (300 BCE–800 CE)*. http://www.duo.uio.no.

Teodorsson, Sven-Tage. 1977. *The phonology of Ptolemaic Koine*. Göteborg: Acta Universitatis Gothoburgensis.

Testen, David. 2008. Root and pattern system. In *Encyclopaedia Britannica*, accessed 29th January 2018 (https://www.britannica.com/topic/root-and-pattern-system).

Traunmüller, Hartmut. 1999. Coarticulatory effects of consonants on vowels and their reflection in perception. In *Proceedings from the XIIth Swedish Phonetics Conference*, 141–144.

Vierros, Marja. 2012. *Bilingual notaries in Hellenistic Egypt. A study of Greek as a second language*. Collectanea Hellenistica 5. Brussels.

Weinreich, Uriel. 1968 [1953]. *Languages in contact. Findings and problems*. The Hague: Mouton Publishers.

Wiik, Kalevi. 1965. *Finnish and English vowels. A comparison with special references to the learning problems met by native speakers of Finnish learning English*. Turku: Annales Universitatis Turkuensis.